

## ABSTRACT OF THE DISCLOSURE

5 A film-forming method for forming a deposited film on a substrate arranged in a substantially enclosed film-forming vessel by means of plasma CVD by introducing a raw material gas comprising at least a hydrogen gas and a silicon-containing raw material gas into said film-forming vessel and introducing a high frequency power into said film-forming vessel through a discharge electrode provided in said film-forming vessel to generate a plasma in a plasma generation region between said substrate and said discharge electrode in said film-forming vessel whereby forming said deposited film on said substrate, wherein the formation of said deposited film on said substrate is performed while applying a periodicity voltage having at least two different waveform components having a different amplitude to an auxiliary electrode arranged at a position in said plasma generation region of said film-forming vessel or an auxiliary electrode provided on the rear side of said substrate and outside said plasma generation region.